Remarks/Arguments:

A new declaration accompanies this paper.

The Examiner noted that Applicant might wish to consider rewording certain portions of the specification into more standard English. Applicants have provided an entire substitute specification, and a marked-up version for convenience of comparison. No new matter has been added.

Claims 9 and 10 have been amended for clarity.

Claims 1-3, and 6-10 were rejected under 35 U. S. C. 102(b) as being anticipated by disclosures in Dahayanake *et al.* (WO 98/56497). The limitation of claim 4 has been incorporated into claim 1. Claim 4 has been canceled.

Claims 1-3, and 6-10 were rejected under 35 U. S. C. 102(e) as being anticipated by Fu *et al.* in US Patent Application Publication 2003/0236174. The limitation of claim 4 has been incorporated into claim 1. Claim 4 has been canceled.

Claims 1-2, and 4-10 were rejected under 35 U. S. C. 102(e) as being anticipated by England *et al.* in US Patent Application Publication 2004/0023812. The limitation of claim 3 has been incorporated into claim 1. Claim 3 has been canceled.

Claims 1-10 were rejected under 35 U. S. C. 103(a) as being unpatentable over Lungwitz *et al.* in US Patent Application Publication 2002/0033260 (now US Patent No. 6,762,154) especially in view of Dahayanake *et al.* (WO 98/56497) and Thompson *et al.* in US Patent No. 6,302,209. Lungwitz discloses high-brine, high-density aqueous viscous fluids based on surfactants used in the present invention and their use for oilfield methods such as fracturing. Lungwitz makes no mention of energizing or foaming, although in paragraph [0039] Lungwitz teaches that the fluid can contain anti-foam agents. WO 98/56497 teaches that low-brine, low-density (relative to the fluids of the present invention) fracturing fluids made with these surfactants may be foamed with air, nitrogen or carbon dioxide. Thompson teaches that energizing fracturing fluids may be desirable. However, it is well known that the behavior of aqueous surfactant systems is very sensitive to such features as salinity, the nature and concentrations of specific cations and anions present, the pH, the temperature, the viscosity, co-surfactants and other components, and other factors, and that the behavior of foams is further dependent

upon these factors and liquid viscosity, foam quality, the interactive chemistry of the liquid and gas phases, and other factors. In other words, the chemistry of surfactants and the physics of foams are each very complicated and difficult to predict. The literature is replete with unexpected and unexplained phase behavior and instability of such systems. Neither Lungwitz nor WO 98/56497 teaches anything about the chemistry or physics of their systems that would suggest the present invention that requires a stable foam under extreme conditions. Furthermore, Lungwitz and WO 98/56497 are silent on specific pressures (merely stating pressure must be sufficient to fracture); the current application discusses high pressure at length and gives 11,250 psi as an example (Table 2). Also, although WO 98/56497 shows some viscoelastic surfactant fluids to be stable to about 275 °F, the only data for a betaine, oleamidopropyl betaine (Example 6), are at 25 °C. Lungwitz, in paragraph [0021] says that "Preferably, the method is performed in formations having a temperature less than about 260°F (126.7°C)...". The present invention is intended for use at medium to high temperatures; see for example paragraph [0039] and Tables 5 and 7. Although Applicants obviated the Examiner's discussion of densities in his 102(b) rejection over WO 98/56497 by incorporating the limitations of claim 4 into claim 1, Applicants respectfully disagree with the Examiner's assertion that "up to 30%" salts can be interpreted as "less than 50%". There is nothing in WO 98/56497 to suggest exceeding 30%; WO 98/56497 does not disclose densities above 1.32 g/cm^3. There is nothing in Lungwitz or in WO 98/56497 to suggest that a high brine material of Lungwitz could successfully be foamed with air, nitrogen, and carbon dioxide at the temperatures, pressures, liquid densities, and foam qualities taught in the present application and used for fracturing.

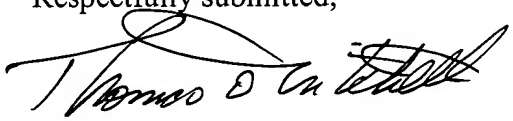
Claims 1-5 and 9-10 are rejected under 35 U. S. C. 103(a) as being unpatentable over Norman *et al.* in US Patent 5,551,516 in view of Teot *et al.* in US Patent 4,725,372. The limitations of claim 6 have been incorporated into claim 1; claim 6 has been canceled. Based on the arguments made above concerning the unreasonableness of assuming results in the systems of the invention, even from somewhat similar systems, Applicants believe that extrapolations made on the basis of different surfactants cannot be made.

Claims 1-10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 6-7, and 9-11 of copending US Patent Application No. 10/249,943 by England, *et al.* If claims are allowed and the provisional rejection is maintained, a Terminal Disclaimer will be provided.

In light of the above amendments and remarks, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

The Commissioner is authorized to charge any additional required fee, or credit any excess fee paid, to Deposit Account 04-1579 (56.0718).

Respectfully submitted,



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